JC05 Rec'd PCT/PTO 02 APR 2002

FORM PTO-1390 (REV. 11-2000) U S DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371

ATTORNEY'S DOCKET NUMBER	
3876-0104P	
U.S. APPLICATION NO. (If known, see 37 CFR 1.5)	
10/088614 NEW	

INTERNATIONAL APPLICATION NO.	INTERNATIONAL FILING DATE	PRIORITY DATE CLAIMED
PCT/DK00/00561	October 6, 2000	October 6, 1999

TITLE OF INVENTION
A METHOD OF MANUFACTURING AND USING A SUPERCONDUCTING TAPE, ESPECIALLY WHEN SAID TAPE IS TO BE WOUND ON A COIL

APPLICANT(S) FOR DO/EO/US
SKOV-HANSEN, Peder

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39 (1).
4. ☒ The US has been elected by the expiration of 19 months from the priority date (Article 31).
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
   a. ☒ is transmitted herewith (required only if not transmitted by the International Bureau). WO 01/26120
   b. ☐ has been transmitted by the International Bureau.
   c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☐ An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
   a. ☐ is transmitted herewith.
   b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4)
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)).
   a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
   b. ☐ have been transmitted by the International Bureau.
   c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
   d. ☒ have not been made and will not be made.
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☐ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☐ An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11. to 20. below concern document(s) or information included:

11. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98, Form PTO-1449(s), and International Search Report (PCT/ISA/210) with 2 cited document(s).
12. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☒ A FIRST preliminary amendment.
14. ☐ A SECOND or SUBSEQUENT preliminary amendment.
15. ☐ A substitute specification.
16. ☐ A change of power of attorney and/or address letter.
17. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821-1.825.
18. ☐ A second copy of the published international application under 35 U.S.C. 154(d)(4).
19. ☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
20. ☒ Other items or information:
    1. PCT Substitute Claims Letter w/ PCT/IPEA/409 and Amended Claims
    2. Two (2) Sheets of Formal Drawings

10089614 .020402

JC10 Rec'd PCT/PTO 02 APR 2002

U.S. APPLICATION NO (if known, see 37 CFR 1.5)	INTERNATIONAL APPLICATION NO	ATTORNEY'S DOCKET NUMBER
NEW 10/089614	PCT/DK00/00561	3876-0104P

	CALCULATIONS	PTO USE ONLY
21. ☒ The following fees are submitted		
BASIC NATIONAL FEE (37 CFR 1.492(a)(1)-(5):		
Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO. **$1,040.00**		
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO **$890.00**		
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO. **$740.00**		
International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) **$710.00**		
International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4). **$100.00**		
ENTER APPROPRIATE BASIC FEE AMOUNT =	$ 1040.00	
Surcharge of **$130.00** for furnishing the oath or declaration later than ☐ 20 ☒ 30 months from the earliest claimed priority date (37 CFR 1.492(e)).	$ 130.00	

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total Claims	7 - 20 =	0	X **$18.00**	$ 0	
Independent Claims	1 - 3 =	0	X **$84.00**	$ 0	
MULTIPLE DEPENDENT CLAIM(S) (if applicable)		Yes	+ **$280.00**	$ 280.00	
TOTAL OF ABOVE CALCULATIONS =				$ 1450.00	
☐ Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.				$ 0	
SUBTOTAL =				$ 1450.00	
Processing fee of **$130.00** for furnishing the English translation later than ☐20 ☐30 months from the earliest claimed priority date (37 CFR 1.492(f)). +				$ 0	
TOTAL NATIONAL FEE =				$ 1450.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). **$40.00** per property +				$ 0	
TOTAL FEES ENCLOSED =				$ 1450.00	
				Amount to be: refunded	$
				charged	$

a. ☒ A check in the amount of $ **1450.00** to cover the above fees is enclosed.

b. ☐ Please charge my Deposit Account. No. _____ in the amount of $_____ to cover the above fees. A duplicate copy of this sheet is enclosed.

c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 02-2448.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

Send all correspondence to:
Birch, Stewart, Kolasch & Birch, LLP or Customer No. 2292
P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000

Date: April 2, 2002

By Joe McKinney Muncy
Joe McKinney Muncy, #32,334

PATENT
3876-0104P

IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant:	SKOV-HANSEN, Peder	
Int'l. Appl. No.:	PCT/DK00/00561	
Appl. No.:	NEW	Group:
Filed:	April 2, 2002	Examiner:
For:	A METHOD OF MANUFACTURING AND USING A SUPERCONDUCTING TAPE, ESPECIALLY WHEN SAID TAPE IS TO BE WOUND ON A COIL	

PRELIMINARY AMENDMENT

BOX PATENT APPLICATION
Assistant Commissioner for Patents
Washington, DC 20231

April 2, 2002

Sir:

The following Preliminary Amendments and Remarks are respectfully submitted in connection with the above-identified application.

AMENDMENTS

IN THE SPECIFICATION:

Please amend the specification as follows:

Before line 1, insert --This application is the national phase under 35 U.S.C. § 371 of PCT International Application No. PCT/DK00/00561 which has an International filing date of October 6, 2000, which designated the United States of America.--

Docket No. 3876-0104P

In the Claims:

Please amend the claims as follows:

2. (Amended) A method according to claim 1, characterized in that the superconducting tape is wounded in a radius of curvature range including a radius of curvature being smaller than the final radius of curvature as well as a radius of curvature exceeding said final radius of curvature.

3. (Amended) A method according to claim 1 or 2, characterized in that the tape is wound with a radius where the tape brittles if it is subjected to a strain after the sintering.

4. (Amended) A method according to claim 1, characterized in that after the sintering, the superconducting tape is wound on a holder without being subjected to a stain beyond the range resulting n a critical strain of 1%, preferably 0.40%.

5. (Amended) A method according to claim 4, characterized in that said holder being a coil holder.

6. (Amended) A method according to claim 1, characterized in that prior to the sintering, the superconducting tape is provided with one or several bending radii, whereby the tape does not

brittle when it after sintering is provided with its final radius of curvature.

Docket No. 3876-0104P

REMARKS

The specification has been amended to provide a cross-reference to the previously filed International Application.

The Amendment to the claims is merely to delete improper multiple dependencies and to place the application into better form for examination. The claims have also been amended to correct typographical errors.

Entry of the above amendments is earnestly solicited. An early and favorable first action on the merits is earnestly solicited.

Attached hereto is a marked-up version of the changes made to the application by this Amendment.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By _____
Joe McKinney Muncy, #32,334

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Falls Church, VA 22040-0747
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KM/sl
3876-0104P

Attachment: VERSION WITH MARKINGS TO SHOW CHANGES MADE

(Rev. 02/21/02)

Docket No. 3876-0104P

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims have been amended as follows:

2. (Amended) A method according to claim 1, [characterised]characterized in that the superconducting tape is wounded in a radius of curvature range including a radius of curvature being smaller than the final radius of curvature as well as a radius of curvature exceeding said final radius of curvature.

3. (Amended) A method according to [any of the claims 1 and 2]claim 1 or 2, [characterised]characterized in that the tape is wound with a radius where the tape brittles if it is subjected to a strain after the sintering.

4. (Amended) A method according to [any one of the claims 1 to 3]claim 1, [characterised]characterized in that after the sintering, the superconducting tape is wound on a holder without being subjected to a stain beyond the range resulting n a critical strain of 1%, preferably 0.40%.

5. (Amended) A method according to claim 4, [characterised]characterized in that said holder being a coil holder.

6. (Amended) A method according to [any one of the claims 1 to 5]claim 1, [characterised]characterized in that prior to the sintering, the superconducting tape is provided with one or several bending radii, whereby the tape does not brittle when it after sintering is provided with its final radius of curvature.

Title: A method of manufacturing and using a superconducting tape, especially when said tape is to be wound on a coil.

Technical Field.

The invention relates to a method of manufacturing and using a superconducting tape, especially when said tape is to be wound into a coil.

Background Art

US-PS No. 5,531,015 discloses two principles for the winding procedure.

1. Wind and react or
2. React and wind.

The first method involves winding a superconducting tape to a mandrel with or without intermediate insulating layers followed by a sintering in an oven. This method presents high requirements to the mandrel and to the properties of the insulating layers with respect to absorption of heat, and it is suited for the manufacture of coils with a small radius.

The second method involves a winding up of the tape with a relatively large radius followed by the tape wound up being sintered in an oven. Not until now the tape is wound onto a mandrel. However, during the winding procedure a risk applies of the superconducting material of the tape brittling due to the small bending radius. The latter applies especially to the manufacture of small coils where the tape is subjected to particularly extensive deformations during the winding procedure.

Brief Description of the Invention.

The object of the invention is to provide a method of manufacturing superconducting tapes with small radii of curvature, especially small coils not encumbered with the above draw-backs.

A method of the above type is according to the invention characterised in that prior to the sintering in an oven, the superconducting tape is wound up with a radius of curvature dimensioned in such a way that the curvature is adapted to a specific application, whereafter the sintering is carried out.

As a result the sintering can be carried out before the tape is wound on a mandrel. In this manner it is possible to manufacture even small coils without the use of special mandrels and insulating layers which can tolerate high temperatures.

Moreover, the superconducting tape may according to the invention be wound up or bent into one or more radii of curvature prior to the sintering, said radii of curvature being dimensioned in such a way that within a predetermined radius of curvature range said radius of curvature is adapted to a specific application, whereby the said radius of curvature range corresponds to the range defining the handling and winding extent of the tape without involving a brittling of the superconducting material.

Furthermore, the said radius of curvature range may according to the invention include a radius of curvature being smaller than the final radius of curvature as well as a radius of curvature exceeding said final radius of curvature.

Prior to the sintering, the superconducting tape may according to the invention be provided with one or more bending radii, whereby said tape does not brittle when it is placed in the application in question after the sintering.

Brief Description of the Drawings

The invention is explained in greater detail below with reference to the accompanying drawings, in which

Fig. 1 illustrates a superconducting tape wound into a so-called "pancake shape" for the sintering,

Fig. 2 illustrates the sintered tape wound on a coil holder, and

Fig. 3 shows the maximum strain in a superconducting tape versus an amendment of the radius of curvature for two different values of the initial radius of curvature.

Best Mode for Carrying Out the Invention

The known "React and Wind" method involves a winding of the tape so as to allow the tape to be placed in an oven for an annealing of the superconducting material. It is, of course, not possible to place several km of tape in an oven without said tape being wound up. Such a wound up tape is ordinarily called a "pancake-shaped" superconducting tape. Such pancake-shaped tapes are for instance described in EP 0631331 in the name of Sumitomo Electric Industries. Such a wound up tape is encumbered with the draw-back that microcracks can arise in the superconducting material in case said material is bent too much or if said material is subjected to a too extensive deformation. The inventors have tried to map these circumstances, and Fig. 3 illustrates the strain versus the radius of curvature of two different initial radii of curvature. It appears that it is much easier to increase the radius of curvature without involving a too extensive strain than to reduce said radius of curvature. When a strain of for instance 0.40%, viz. a critical strain, is acceptable, the possible range of radius of curvature without exceeding the superconducting properties can be deduced from the graph with the initial radius of curvature in question. Sometimes a critical strain of up to 1% is acceptable, cf. US-PS No. 5,531,015.

According to the present invention the superconducting tape is provided with a radius of curvature, viz. is subjected to a deformation, prior to the annealing, and within the range appearing from Fig. 3 this radius of curvature is close to the final radius of curvature, viz. the resulting deformation. The radius of curvature can be slightly smaller or slightly larger than the final radius of curvature. In this manner it is possible to avoid a deformation of the tape to such an extent that microcracks arise during the following placing of said superconducting tape on for instance a mandrel, viz. a coil holder, with intermediate layers of insulating material, i.e. without being subjected to a strain beyond the range of the radius of curvature. In addition, the advantage is obtained that it is possible to use a mandrel and intermediate insulating material not tolerating the high sintering temperatures of typically 900°C. In other words a free choice applies with respect to the material used for the mandrel and the insulating layers, which in practice turned out to be a vital factor.

However, during the manufacturing process it is important that a predetermined operating margin applies to the radius of curvature of the superconducting tape, and it is thanks to the inventor that these margins have now been mapped and quantified, cf. Fig. 3.

It appears furthermore from the curve of Fig. 3 that the initial radius of curvature should rather be too small than too large because it is much easier to carry out a strain than to carry out a further bending. However, with respect to the handling it is an advantage that it is possible to subject the tape to a strain.

In general, the superconducting tape can be wound with a radius of curvature implying that the tape brittles when it is subjected to a strain after the sintering, and according to a particular embodiment the superconducting tape is provided with one or several bending radii, whereby it does not brittle when it is placed in the application after said sintering.

The tape is preferably a multi-filament tape because such tapes are more tolerant to bending than the mono-filament tapes.

Claims

1. A method for the production of a wound superconducting tape with a final radius of curvature comprising the steps of:

i. Winding the superconducting tape with a radius of curvature dimensioned in such a way that the curature is adapted to a specific application having said final radius of curvature;

ii. sintering said superconducting tape in an oven: and

iii. providing said wounded tape with its final radius of curvature,

wherein said radius of curvature wound in said step of winding the superconducting tape includes a radius of curvature being smaller than the final radius of curvature.

2. A method according to claim 1, characterised in that the superconducting tape is wounded in a radius of curvature range including a radius of curvature being smaller than the final radius of curvature as well as a radius of curvature exceeding said final radius of curvature.

3. A method according to any of the claims 1 and 2, characterised in that the tape is wound with a radius where the tape brittles if it is subjected to a strain after the sintering.

4. A method according to any one of the claims 1 to 3, characterised in that after the sintering, the superconducting tape is wound on a holder without being subjected to a stain beyond the range resulting in a critical strain of 1%, preferably 0.40%.

5. A method according to claim 4, characterised in that said holder being a coil holder.

6. A method according to any one of the claims 1 to 5, characterised in that prior to the sintering, the superconducting tape is provided with one or several bending radii, whereby the tape does not brittle when it after sintering is provided with its final radius of curvature.

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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PA 1999 01432 6 October 1999 (06.10.1999) DK

(71) Applicant *(for all designated States except US)*: NORDIC SUPERCONDUCTOR TECHNOLOGIES A/S [DK/DK]; Priorparken 685, DK-2605 Brøndby (DK).

(72) Inventor; and
(75) Inventor/Applicant *(for US only)*: SKOV-HANSEN, Peder [DK/DK]; Nattergalevej 44, 2. th., DK-2400 Copenhagen NV (DK).

(74) Agent: CHAS. HUDE A/S; H.C. Andersens Boulevard 33, DK-1780 Copenhagen V (DK).

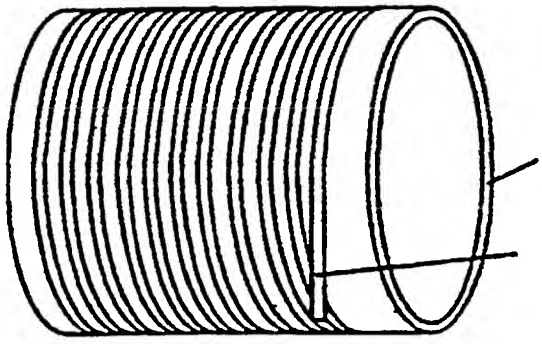
(81) Designated States *(national)*: AE, AG, AL, AM, AT, AT (utility model), AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, CZ (utility model), DE, DE (utility model), DK, DK (utility model), DM, DZ, EE, EE (utility model), ES, FI, FI (utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (utility model), SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:
— *Without international search report and to be republished upon receipt of that report.*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A METHOD OF MANUFACTURING AND USING A SUPERCONDUCTOR TAPE, ESPECIALLY WHEN SAID TAPE IS TO BE WOUND ON A COIL



(57) Abstract: A method for the use of a superconducting tape, especially for the winding of a superconducting tape to a coil. According to the invention, the superconducting tape is wound with a radius of curvature adapted to a specific application before it is subjected to a sintering in an oven, whereafter the sintering is carried out. Thus the sintering can be carried out before a winding to a mandrel is carried out. As a result it is possible to manufacture even small coils without the use of special mandrels and insulating layers which can tolerate high temperatures.

WO 01/26120 A2

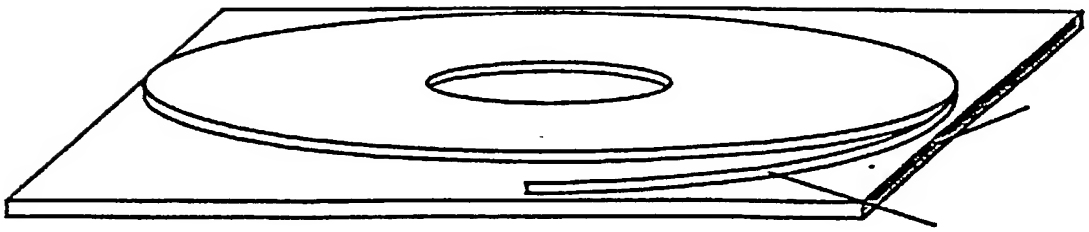


Fig 1

(prior art)

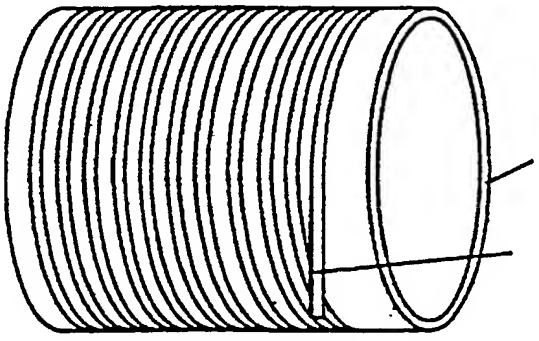


Fig 2

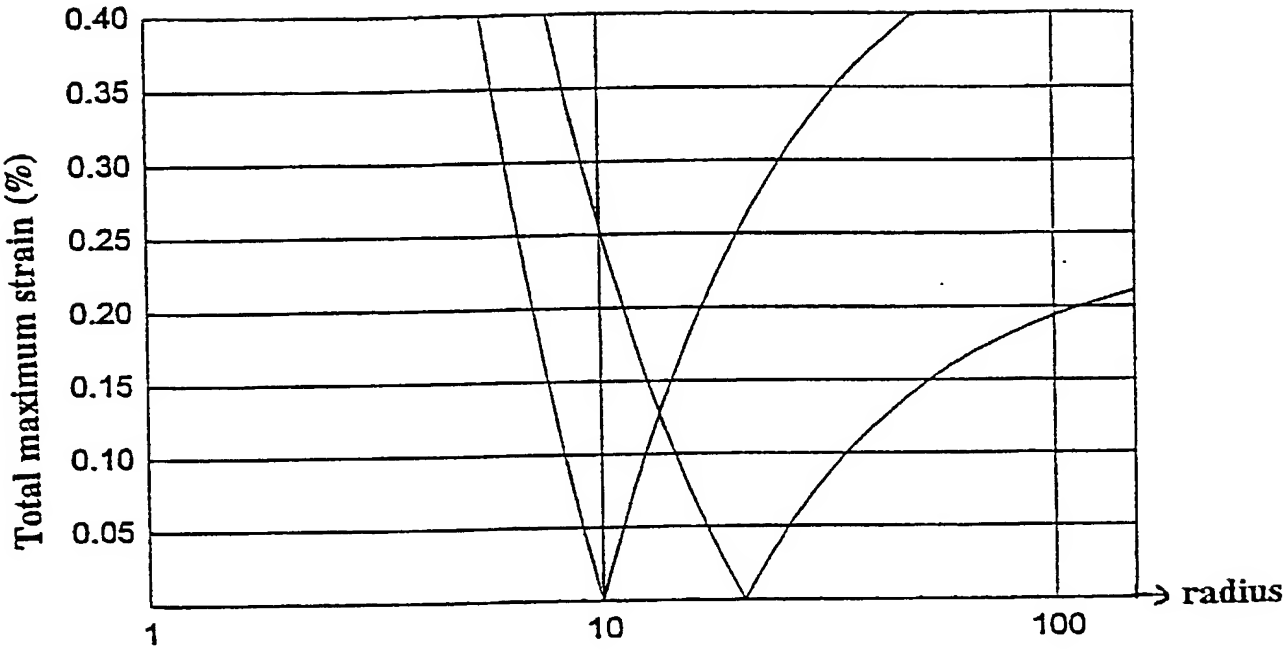

0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
Total maximum strain (%)
1
10
100
radius

Fig 3

Attorney Docket No. 3876-0104P

I hereby appoint the practitioners at CUSTOMER NO. 2292 as my attorneys or agents to prosecute this application and/or an international application based on this application and to transact all business in the United States Patent and Trademark Office connected therewith and in connection with the resulting patent based on instructions received from the entity who first sent the application papers to the practitioners, unless the inventor(s) or assignee provides said practitioners with a written notice to the contrary:

Send Correspondence to:

BIRCH, STEWART, KOLASCH & BIRCH, LLP or CUSTOMER NO. 2292
P.O. Box 747 • Falls Church, Virginia 22040-0747
Telephone: (703) 205-8000 • Facsimile: (703) 205-8050

PLEASE NOTE: YOU MUST COMPLETE THE FOLLOWING:

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full Name of First or Sole Inventor. Insert Name of Inventor. Insert Date This Document is Signed.

GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE	DATE*
Peder SKOV-HANSEN	Peder Skov-H	13. may 2002
Residence (City, State & Country)		CITIZENSHIP
Copenhagen, DENMARK DKX		DANISH
MAILING ADDRESS (Complete Street Address including City, State & Country)		
Nattergalevej 44, 2.th. DK-2400 Copenhagen NV DENMARK		

Insert Residence. Insert Citizenship.

Insert Post Office Address.

Full Name of Second Inventor, if any: see above

GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE	DATE*
Residence (City, State & Country)		CITIZENSHIP
MAILING ADDRESS (Complete Street Address including City, State & Country)		

Full Name of Third Inventor, if any: see above

GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE	DATE*
Residence (City, State & Country)		CITIZENSHIP
MAILING ADDRESS (Complete Street Address including City, State & Country)		

Full Name of Fourth Inventor, if any: see above

GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE	DATE*
Residence (City, State & Country)		CITIZENSHIP
MAILING ADDRESS (Complete Street Address including City, State & Country)		

Full Name of Fifth Inventor, if any: see above

GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE	DATE*
Residence (City, State & Country)		CITIZENSHIP
MAILING ADDRESS (Complete Street Address including City, State & Country)		

Full Name of Sixth Inventor, if any: see above

GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE	DATE*
Residence (City, State & Country)		CITIZENSHIP
MAILING ADDRESS (Complete Street Address including City, State & Country)		

*DATE OF SIGNATURE

Attorney Docket No. 3876-0104P

BIRCH, STEWART, KOLASCH & BIRCH, LLP
P.O. Box 747 • Falls Church, Virginia 22040-0747
Telephone: (703) 205-8000 • Facsimile: (703) 205-8050

PLEASE NOTE: YOU MUST COMPLETE THE FOLLOWING

COMBINED DECLARATION AND POWER OF ATTORNEY FOR PATENT AND DESIGN APPLICATIONS

As a below named inventor, I hereby declare that: my residence, post office address and citizenship are as stated next to my name; that I verily believe that I am the original, first and sole inventor (if only one inventor is named below) or an original, first and joint inventor (if plural inventors are named below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Insert Title: A METHOD OF MANUFACTURING AND USING A SUPERCONDUCTING TAPE, ESPECIALLY WHEN SAID TAPE IS TO BE WOUND ON A COIL

Fill in Appropriate Information - For Use Without Specification Attached.

the specification of which is attached hereto If not attached hereto,
the specification was filed on _____ as
United States Application Number _____,
and amended on _____ (if applicable) and/or
the specification was filed on _____ as PCT
International Application Number _____; and was
amended on _____ (if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56

I do not know and do not believe the same was ever known or used in the United States of America before my or our invention thereof, or patented or described in any printed publication in any country before my or our invention thereof or more than one year prior to this application, that the same was not in public use or on sale in the United States of America more than one year prior to this application, that the invention has not been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representative or assigns more than twelve months (six months for designs) prior to this application, and that no application for patent or inventor's certificate on this invention has been filed in any country foreign to the United States of America prior to this application by me or my legal representatives or assigns, except as follows.

I hereby claim foreign priority benefits under Title 35, United States Code, §119(a)-(d) of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Insert Priority Information: (if appropriate)

Prior Foreign Application(s)			Priority Claimed	
(Number)	(Country)	(Month/Day/Year Filed)	☐ Yes	☐ No
(Number)	(Country)	(Month/Day/Year Filed)	☐ Yes	☐ No
(Number)	(Country)	(Month/Day/Year Filed)	☐ Yes	☐ No
(Number)	(Country)	(Month/Day/Year Filed)	☐ Yes	☐ No

I hereby claim the benefit under Title 35, United States Code, §119(e) of any United States provisional applications(s) listed below.

Insert Provisional Application(s): (if any)

(Application Number)	(Filing Date)
(Application Number)	(Filing Date)

All Foreign Applications, if any, for any Patent or Inventor's Certificate Filed More than 12 Months (6 Months for Designs) Prior to the Filing Date of This Application.

Insert Requested Information: (if appropriate)

Country	Application Number	Date of Filing (Month/Day/Year)

I hereby claim the benefit under Title 35, United States Code, §120 of any United States and/or PCT application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States and/or PCT application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose information which is material to the patentability as defined in Title 37, Code of Federal Regulations, §1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application

Insert Prior U.S. Application(s): (if any)

(Application Number)	(Filing Date)	(Status - patented, pending, abandoned)
(Application Number)	(Filing Date)	(Status - patented, pending, abandoned)

[redacted]